AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application.

LISTING OF CLAIMS:

17. (currently amended) A process for producing a microstructured tool insert for injection molding a part which is produced from a synthetic material, a metal or from a ceramic material, said process comprising:

(a) providing a wafer having a front side and a rear side;

(b~~a~~) photo-lithographically masking the front side of the wafer with a first etching mask which corresponds to an arrangement of first microstructures,

(c~~b~~) micro-structuring the front side of the wafer by means of plasma etching to form said arrangement of first microstructures on the front side of the wafer, ~~said first microstructures including a first orifice,~~

(d~~c~~) removing the first etching mask from the front side of the wafer,

(e~~d~~) photo-lithographically masking the rear side of the wafer with a second etching mask which corresponds to an arrangement of second microstructures, which are to be in fluid connection with the first microstructures on the front side of the wafer,

(f~~e~~) microstructuring the rear side of the wafer by means of plasma etching to form said arrangement of second microstructures having cavities on the rear side of the wafer, and which cavities issue into the first microstructures on the front side of the ~~first~~ wafer, said cavities having inclined side walls and a tapered cross section, the width of this cross section~~which~~ increasinges with ~~the~~ distance from the rear side of the wafer,

(g~~f~~) removing the second etching mask from the rear side of the wafer,

(h~~g~~) attaching the rear side of the wafer to a carrier substrate to form a master,

(i~~h~~) applying an electrically conductive thin layer to the microstructured front side of the wafer and to the carrier substrate surfaces which are accessible through the mentioned cavities,

(j~~i~~) electrochemically depositing a metal layer on the front side of the wafer and in the cavities which are present therein and are formed by the second microstructures,

(k~~j~~) making planar the outer surface of said deposited metal layer, and

(lk) separating said deposited metal layer from the master, wherein the separated metal layer can be used as a tool insert for injection molding a part.

18. (previously presented) The process of Claim 17 wherein the wafer is a silicon wafer.

19. (previously presented) The process of Claim 17 wherein the carrier substrate is a glass wafer.

20. (previously presented) The process of Claim 17 wherein the carrier substrate is a silicon wafer.

21. (previously presented) The process of Claim 17 wherein the deposited metal layer is a nickel layer.

22. (currently amended) The process of claim 17 wherein the microstructuring of the rear side of the wafer is performed by means of through-etching the wafer with an undercut, so that the microstructures formed have said tapered cross-section, the width of ~~which increases~~ this cross section increasing with ~~the~~ distance from the rear side of the wafer.

23. (currently amended) A process for injection molding a part which is produced from a synthetic material, a metal or from a ceramic material, said process comprising:

(a) installing a ~~first~~ tool insert in a first tool half which serves to shape the arrangement of microstructures, wherein the ~~first~~ tool insert is produced according to a process comprising the steps of providing a wafer having a front side and a rear side, photo-lithographically masking the front side of a wafer with a first etching mask which corresponds to an arrangement of first microstructures, microstructuring the front side of the wafer by means of plasma etching to form said arrangement of first microstructures on the front side of the wafer, ~~said first microstructures including a first orifice,~~ removing the first etching mask from the front side of the wafer, photo-lithographically masking the rear side of the wafer with a second etching mask which corresponds to an arrangement of second microstructures, which are to be in fluid connection with the first microstructures on the front side of the wafer, microstructuring the rear side of the wafer by means of plasma etching to form said arrangement of second microstructures having cavities which issue into the first microstructures on the front side of the wafer, said cavities having inclined side walls and a tapered cross section, the width of this cross section ~~which~~ increasinges with ~~the~~ distance from the rear side of the wafer, removing the second etching

mask from the rear side of the wafer, attaching the rear side of the wafer to a carrier substrate to form a master, applying an electrically conductive thin layer to the microstructured front side of the wafer and to the carrier substrate surfaces which are accessible through the mentioned cavities, electrochemically depositing a metal layer on the front side of the wafer and in the cavities which are present therein and are formed by the second microstructures, making planar the outer surface of said deposited metal layer, and separating said deposited metal layer from the master,

(b) providing a second tool half,

(c) bringing said first tool half and said second tool half into contact with one another so as to form a molding tool for injection molding, said molding tool having a cavity,

(d) injecting a material melt into the cavity in the molding tool,

(e) cooling the injected material melt, and

(f) ejecting from the molding tool for injection molding a part which is formed by the setting of the injected material melt.

24. (currently amended) A process for producing a ~~portion~~ tool insert for use as a component of a mold, said process comprising:

(a) providing a wafer having a front side and a rear side,

~~(a)~~ (b) etching at least one first microstructure on ~~a~~ the front side of ~~a~~ the wafer, said at least one first microstructure having a first depth,

~~(b)~~ (c) etching at least one second microstructure on ~~a~~ the rear side of the wafer, said at least one second microstructure having a second depth and inclined walls,

~~(c)~~ (d) bonding the rear side of the wafer to a carrier substrate to form a master,

~~(d)~~ (e) depositing a metal layer on the wafer that fills the first and the second microstructures, and

(e) (f) separating said metal layer from the master.

25. (previously presented) The process of claim 24 wherein etching said at least one first microstructure includes masking the front side of the wafer with a first etching mask which corresponds to the first microstructure.

26. (currently amended) The process of claim 24 wherein etching the at least one first microstructure includes etching the front side of the wafer after masking this side with ~~the~~ a first etching mask.

27. (previously presented) The process of claim 26 wherein the etching is plasma etching.

28. (previously presented) The process of claim 24 wherein etching the at least one second microstructure includes masking the rear side of the wafer with a second etching mask which corresponds to the second microstructure.

29. (previously presented) The process of claim 24 wherein etching the at least one second microstructure includes etching the rear side of the wafer after masking of this side with the second etching mask.

30. (previously presented) The process of claim 29 wherein the etching is plasma etching.

31. (currently amended) The process of claim 24 wherein depositing of the metal layer includes applying an electrically conductive thin layer to the front side of the wafer and to the carrier substrate surfaces followed by electrochemically depositing a metal layer on the front side of the ~~first~~ wafer and in the at least one first microstructure and the at least one second microstructure.

32. (currently amended) A process for molding a part using a mold having a first mold portion and a second mold portion, said process comprising:

(a) installing a tool insert into a cavity of said first mold portion, said ~~first~~ tool insert serving to shape an arrangement of microstructures on the part, wherein said tool insert is produced according to a process comprising the steps of providing a wafer having a front side and a rear side, etching at least one first microstructure on the~~a~~ front side of the~~a~~ wafer, said first microstructure having a first depth, etching at least one second microstructure on a rear side of the wafer, said second microstructure having a second ~~predetermined~~ depth and inclined walls, bonding the rear side of the wafer to a carrier substrate to form a master, depositing metal on the wafer that fills the first and the second microstructures, and separating the metal layer from the master,

(b) forming said mold by bringing said first mold portion and said second mold portion into contact with one another,

(c) introducing a material melt into said mold formed by said first and second mold portions,

(d) cooling said material melt and

(e) removing said cooled material melt from said mold.